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CLAIMS APPENDIX

Claims 1-7 (canceled).

Claim 8 (previously presented): A production system comprising:

a plurality of point of sales terminals each including an electronic interface which obtains sales information concerning sales of a plurality of goods;

a main control unit including an input device for receiving the sales information from the point of sales terminals, a main production controller including a production size determining unit for determining a production quantity to be produced in the future for the plurality of goods based on the sales information received from the plurality of point of sales terminals, and an output device for outputting data indicative of the production quantity determined by the production size determining unit; and

a manufacturing unit for manufacturing plurality of goods based on the sales information which is collected at the plurality of point of sales terminals and transmitted from the plurality of point of sales terminals to the main production controller; wherein

after the production size determining unit determines the production quantity, the main production controller transmits the output data indicative of the production quantity determined by the production size determining unit to a production unit; and

the production unit manufactures the production quantity of the plurality of goods in response to receiving the output data indicative of the production quantity from the main production controller.

Claim 9 (previously presented): The production system according to claim 8, further comprising a network for interconnecting the plurality of point of sales terminals and the main control unit.

Claim 10 (previously presented): The production system according to claim 8, further comprising a network for interconnecting the main control unit and the production unit.

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Claim 11 (previously presented): The production system according to claim 9, wherein the network comprises a public communications network.

Claim 12 (previously presented): The production system according to claim 10, wherein the network comprises a public communications network.

Claim 13 (previously presented): The production system according to claim 8, wherein the plurality of point of sales terminals are located at at least one location where the plurality of goods are sold.

Claim 14 (previously presented): The production system according to claim 8, wherein the main control unit includes a host computer and the production size determining unit is a computer program that is executed on the host computer.

Claim 15 (previously presented): The production system according to claim 8, wherein the production unit includes a computer and a plurality of drive units controlled by the computer for manufacturing the production quantity of the goods.

Claim 16 (previously presented): The production system of claim 8, further comprising a raw materials ordering unit for receiving the production quantity from the production size determining unit and for ordering raw materials required to produce the production quantity of the goods.

Claim 17 (previously presented): The production system according to claim 8, further comprising a directing unit for receiving the production quantity from the production size determining unit and for transmitting the production quantity to a raw materials ordering unit and to the production unit.

Claim 18 (previously presented): The production system according to claim 8,

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wherein the sales information collected by the plurality of point of sales terminals includes a name of the goods sold and a quantity of the goods sold.

Claim 19 (previously presented): The production system according to claim 8, wherein the sales information is directly transmitted from the point of sales terminals to the main control unit.

Claim 20 (previously presented): The production system according to claim 8, wherein the point of sales terminals transmit the sales information to the main control unit at a periodic time interval.

Claim 21 (previously presented): The production system according to claim 20, wherein the periodic time interval is a daily interval.

Claim 22 (previously presented): A production system comprising:
a point of sales subsystem including:

- a plurality of point of sales terminals, each including a central processor and an input device for receiving and storing sales information concerning sales of a plurality of products; and

- a flexible manufacturing subsystem including:

- a main controller for receiving the information from the point of sales subsystem and for determining a production quantity of the plurality of products to be produced in the future based on the sales information received from the point of sales subsystem; and

- a manufacturing controller for receiving the production quantity from the main controller and for controlling a plurality of production drive units for controlling manufacture of the production quantity of the plurality of products determined by the main controller.

Claim 23 (previously presented): The production system according to claim 22,

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wherein the manufacturing controller includes a computer for electronically controlling the plurality of production drive units to set desired speeds and power levels for a plurality of manufacturing machines used to manufacture the production quantity of the plurality of products determined by the main controller.

Claim 24 (previously presented): The production system according to claim 22, wherein the point of sales subsystem includes a network connecting the plurality of point of sales terminals to the flexible manufacturing subsystem.

Claim 25 (previously presented): The production system according to claim 24, wherein the network is a public communications network.

Claim 26 (previously presented): The production system according to claim 22; wherein the flexible manufacturing subsystem further includes a raw materials for ordering unit receiving the production quantity from the main controller and for ordering raw materials required to produce the production quantity of the plurality of products.

Claim 27 (previously presented): The production system according to claim 22, wherein the main controller includes an input device for receiving the sales information from the point of sales terminals, a central processor for executing a program to determine the production quantity of the products to be produced in the future, and an output device for outputting the production quantity to the manufacturing controller.

Claim 28 (previously presented): A method of manufacturing products, the method comprising the steps of:

- collecting sales information about products sold at a plurality of point of sales terminals;

- transmitting the sales information to a production size determining unit;

- executing a computer program at the production size determining unit to determine a production quantity of the products to be produced in the future based on

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the sales information collected from the plurality of point of sales terminals and to generate output data indicative of the production quantity determined at the production size determining unit;

transmitting the output data indicative of the production quantity determined at the production size determining unit to a flexible manufacturing controller which is operatively connected to the production size determining unit; and

manufacturing the production quantity of the products based on the sales information data collected at the plurality of point of sales terminals and in accordance with the output data indicative of the production quantity from the production size determining unit and controlling the manufacturing of the production quantity of the products via the flexible manufacturer controller and based on and in response to receiving the transmission of the production quantity determined by the production size determining unit.

Claim 29 (previously presented): The method according to claim 28, further comprising the step of ordering raw materials based on the sales information from the plurality of point of sales terminals and the production quantity determined by the production size determining unit.

Claim 30 (previously presented): The method according to claim 29, wherein the sales information transmitted in the step of transmitting the sales information to a production size determining unit is transmitted via a public information network.

Claim 31 (previously presented): The method according to claim 28, wherein the sales information transmitted in the step of transmitting the output data indicative of the production quantity determined at the production size determining unit to a flexible manufacturing controller is transmitted via a public information network.

Claim 32 (previously presented): The method according to claim 28, wherein the step of manufacturing the production quantity of the products includes the step of

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operating the flexible manufacturing controller to control a plurality of production drive control units for controlling manufacture of the production quantity of the products determined by the production size determining unit.

Claim 33 (previously presented): A method for supplying manufactured goods, comprising the steps of:

receiving data identifying actual number of units sold of a good by a sample number of retail outlets;

estimating a total number of units of said good sold for all retail outlets by scaling-up said received data;

predicting future demand for said good based on said estimated total number of units of said good sold;

determining a production quantity of said good based on said predicted future demand;

determining required quantities of raw materials required for manufacturing the production quantity of said good;

transmitting data concerning the required quantities of raw materials required for manufacturing the production quantity of said good to a raw materials controller and using the raw materials controller to provide the raw materials required for manufacturing the production quantity of said good to a manufacturing plant; and

transmitting the production quantity of said good to a flexible manufacturing controller and using the flexible manufacturing controller to control manufacturing of the production quantity of said good at the manufacturing plant.

Claim 34 (previously presented): The method of Claim 33, wherein said step of receiving data further comprises receiving data from a plurality of point-of-sales terminal units through a communication network.

Claim 35 (previously presented): The method of Claim 33, wherein said step of estimating a total number of units further comprises:

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calculating a ratio of total number of units purchased by all said retail outlets over a preceding period of time and total number of units purchased by said sample number of retail outlets;

estimating a deviation factor; and

multiplying said actual number of units sold, said ratio, and said deviation factor together.

Claim 36 (previously presented): The method of Claim 35, wherein said step of estimating a deviation factor further comprises considering at least one of a product classification, a price classification, a consumer age classification, and a merchandising classification.

Claim 37 (previously presented): The method of Claim 33, wherein said step of predicting future demand further comprises:

receiving periodic updates of said estimated total number of units;

selecting a demand forecast data table according to an elapsed amount of time since initial launch of said good;

identifying a sales pattern from said demand forecast data table corresponding to said periodic updates of said estimated total number of units; and

calculating said future demand based on said identified sales pattern.

Claim 38 (previously presented): The method of Claim 37, wherein said step of selecting a demand forecast data table further comprises selecting between a first demand forecast data table comprising data corresponding to a first predetermined period of time following said initial launch and a second demand forecast data table comprising data corresponding to a second predetermined period of time following said initial launch.

Claim 39 (previously presented): The method of Claim 37, wherein said step of identifying a sales pattern further comprises matching an actual sales pattern derived

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from said periodic updates of said estimated total number of units to one of plural historic sales patterns stored in said demand forecast data table.

Claim 40 (previously presented): The method of Claim 33, wherein said step of determining a production quantity further comprises:

retrieving an inventory quantity for said good and past additional production request quantity for said good from an inventory data table;

calculating a required size of additional production of said good by subtracting said inventory quantity and said past additional production request quantity from said future demand; and

updating said past additional production request quantity to reflect said calculated required size of additional production.

Claim 41 (previously presented): The method of Claim 33, wherein said step of determining required quantities of raw materials further comprises determining raw materials order quantities based on at least order backlog quantities comprising quantities of raw materials for which an order has been sent to a raw materials supplier and the raw materials supplier has acknowledged receipt of the order.

Claim 42 (previously presented): The method of Claim 41, further comprising modifying order backlog quantities based on order acknowledgement information received from the raw materials supplier confirming receipt of ordered quantities of raw materials.

Claim 43 (previously presented): The method of Claim 41, further comprising modifying the required quantities of raw materials based on acceptance information received from a raw materials supplier confirming receipt of ordered quantities of raw materials and modifying said production quantity based on quantities of finished goods.

Claim 44 (previously presented): The method of Claim 33, wherein said step of

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determining required quantities of raw materials further comprises determining raw materials order quantities based on at least in-process order quantities comprising quantities of raw materials for which an order has been sent to a raw materials supplier and the raw materials supplier has not acknowledged receipt of the order nor has confirmed ability to deliver the raw materials requested.

Claim 45 (previously presented): The method of Claim 33, wherein said step of determining required quantities of raw materials further comprises determining raw materials order quantities based on at least one of information regarding type and quantity of raw materials, information regarding assembling and processing steps for manufacturing said good, and information regarding the launching dates of competitive products.

Claim 46 (previously presented): The method of Claim 33, wherein said step of determining required quantities of raw materials further comprises:

determining raw materials order quantities based on information regarding assembling and processing steps for manufacturing said good; and

the step of placing orders for raw materials in a sequence determined by said assembling and processing steps for manufacturing said good.

Claim 47 (previously presented): The method of Claim 40, wherein said step of determining required quantities of raw materials further comprises determining required quantities of constituent raw materials for producing a single unit of said good and multiplying the required quantities of constituent raw materials by the required size of additional production.

Claim 48 (previously presented): The method of Claim 47, wherein said step of determining required quantities of raw materials further comprises determining a current raw materials inventory volume.

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Claim 49 (previously presented): The method of Claim 48, wherein said step of determining required quantities of raw materials further comprises determining a magnitude of excess or shortage for each said constituent raw material for a subsequent period of time based on said current raw materials inventory volume.

Claim 50 (previously presented): The method of Claim 33, further comprising the step of manufacturing the production quantity of said good.

Claim 51 (previously presented): The method of Claim 50, wherein said manufacturing step further comprises:

selecting output values for respective drive units from a drive unit output data table; and

transmitting said selected output values to said respective drive units.

Claim 52 (previously amended): An apparatus for controlling production of manufactured goods comprising a processor and a memory containing a stored program, the stored program causing said processor to perform the steps of:

receiving data identifying actual number of units sold of a good by a sample number of retail outlets;

estimating a total number of units of said good sold for all retail outlets by scaling-up said received data;

predicting future demand for said good based on said estimated total number of units of said good sold;

determining a production quantity of said good based on said predicted future demand;

determining required quantities of raw materials required for manufacturing the production quantity of said good;

transmitting data concerning the required quantities of raw materials required for manufacturing the production quantity of said good to a raw materials controller and using the raw materials controller to provide the raw materials required for

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manufacturing the production quantity of said good to a manufacturing plant; and
transmitting the production quantity of said good to a flexible manufacturing controller and using the flexible manufacturing controller to control manufacturing of the production quantity of said good at the manufacturing plant.

Claim 53 (previously presented): The apparatus of Claim 52, wherein said apparatus is coupled to a plurality of point-of-sales terminal units through a communication network; and

said step of receiving sales information further comprises receiving data from said plurality of point-of-sales terminal units.

Claim 54 (previously presented): The apparatus of Claim 52, wherein said step of estimating a total number of units further comprises:

calculating a ratio of total number of units purchased by all said retail outlets over a preceding period of time and total number of units purchased by said sample number of retail outlets;

estimating a deviation factor; and

multiplying said actual number of units sold, said ratio, and said deviation factor together.

Claim 55 (previously presented): The apparatus of Claim 52, wherein said memory further comprises a product characteristic data table containing at least one of product classification data, price classification data, consumer age classification data, and merchandising classification data.

Claim 56 (previously presented): The apparatus of Claim 52, wherein said memory further comprises a demand forecast data table containing plural sales course patterns including at least first plural patterns corresponding to a first predetermined period of time following product launch and second plural patterns corresponding to a second predetermined period of time following said first predetermined period of time.

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Claim 57 (previously presented): The apparatus of Claim 56, wherein said step of predicting future demand further comprises:

receiving periodic updates of said estimated total number of units;

identifying a sales pattern from said demand forecast data table corresponding to said periodic updates of said estimated total number of units and according to an elapsed amount of time since said product launch of said good; and

calculating said future demand based on said identified sales pattern.

Claim 58 (previously presented): The apparatus of Claim 57, wherein said step of identifying a sales pattern further comprises matching an actual sales pattern derived from said periodic updates of said estimated total number of units to one of said first and second plural patterns stored in said demand forecast data table.

Claim 59 (previously presented): The apparatus of Claim 52, wherein said memory further comprises an inventory data table containing at least inventory quantity data and past additional production request quantity data.

Claim 60 (previously presented): The apparatus of Claim 59, wherein said step of determining a production quantity further comprises:

retrieving an inventory quantity for said good and past additional production request quantity for said good from said inventory data table;

calculating a required size of additional production of said good by subtracting said inventory quantity and said past additional production request quantity from said future demand; and

updating said past additional production request quantity to reflect said calculated required size of additional production.

Claim 61 (previously presented): The apparatus of Claim 52, wherein said step of determining required quantities of raw materials further comprises determining raw

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materials order quantities based on at least order backlog quantities comprising quantities of raw materials for which an order has been sent to a raw materials supplier and the raw materials supplier has acknowledged receipt of the order.

Claim 62 (previously presented): The apparatus of Claim 61, further comprising modifying order backlog raw materials quantities based on order acknowledgement information received from a raw materials supplier confirming receipt of ordered quantities of raw materials.

Claim 63 (previously presented): The apparatus of Claim 52, further comprising modifying the required quantities of raw materials based on acceptance information received from a raw materials supplier confirming receipt of ordered quantities of raw materials and modifying said production quantity based on quantities of finished goods.

Claim 64 (previously presented): The apparatus of Claim 52, wherein said step of determining required quantities of raw materials further comprises determining raw materials order quantities based on at least in-process order quantities comprising quantities of raw materials for which an order has been sent to a raw materials supplier and the raw materials supplier has not acknowledged receipt of the order nor has confirmed ability to deliver the raw materials requested.

Claim 65 (previously presented): The apparatus of Claim 52, wherein said memory further comprises a raw material data table storing at least one of raw materials quantity data, raw materials inventory data, and raw materials acceptance schedule data.

Claim 66 (previously presented): The apparatus of Claim 52, wherein said step of determining required quantities of raw materials further comprises determining raw materials order quantities based on at least one of information regarding type and quantity of raw materials, information regarding assembling and processing steps for

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manufacturing said good, and information regarding the launching dates of competitive products.

Claim 67 (previously presented): The apparatus of Claim 52, wherein said step of determining required quantities of raw materials further comprises:

determining raw materials order quantities based on information regarding assembling and processing steps for manufacturing said good; and
the step of placing orders for raw materials in a sequence determined by said assembling and processing steps for manufacturing said good.

Claim 68 (previously presented): The apparatus of Claim 60, wherein said step of determining required quantities of raw materials further comprises determining required quantities of constituent raw materials for producing a single unit of said good and multiplying the required quantities of constituent raw materials by the required size of additional production.

Claim 69 (previously presented): The apparatus of Claim 68, wherein said step of determining required quantities of raw materials further comprises determining a current raw materials inventory volume.

Claim 70 (previously presented): The apparatus of Claim 69, wherein said step of determining required quantities of raw materials further comprises determining a magnitude of excess or shortage for each said constituent raw material for a subsequent period of time based on said current raw materials inventory volume.

Claim 71 (previously presented): The apparatus of Claim 52, further comprising the step of manufacturing the production quantity of said good.

Claim 72 (previously presented): The apparatus of Claim 71, wherein said memory further comprises a drive unit output data table storing output values for

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respective drive units of a production line.

Claim 73 (previously presented): The apparatus of Claim 72, wherein said manufacturing step further comprises:

selecting output values for respective drive units from said drive unit output data table; and

transmitting said selected output values to said respective drive units.

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EVIDENCE APPENDIX:

None.

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RELATED PROCEEDINGS APPENDIX:

None.